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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,006	11/14/2003	Gary S. Henneberry	1200213R	1954
35227	7590	02/24/2006	EXAMINER	
POLYONE CORPORATION 33587 WALKER ROAD AVON LAKE, OH 44012			DANIELS, MATTHEW J	
			ART UNIT	PAPER NUMBER
			1732	
DATE MAILED: 02/24/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/714,006	Applicant(s) HENNEBERRY, GARY S.	
	Examiner Matthew J. Daniels	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 6-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In the reply filed 31 January 2006, Claims 1-5 were amended. There are no cancelled or new claims.

Election/Restrictions

2. Applicant's election with traverse of Group I in the reply filed on 31 January 2006 is acknowledged. The traversal is on the ground(s) that the search for a method that forms an article is likely to also reveal the structure and function of that article. This is not found persuasive because the intended use of the article created does not materially affect the method of making that article so long as the article produced is capable of performing the claimed intended use. Therefore, because the search for the particular article would still require a different and additional search, the restriction is believed to be proper.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. **Claims 1, 4, and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato (USPN 3372429). **As to Claim 1**, Kato teaches a method of making a double-walled poly(vinyl chloride) containing article (1:55-60), comprising the steps of:

- a) melting a composition containing poly(vinyl chloride) (3:68-75);
- b) continuously extruding the composition in the form of a parison, wherein the composition is made from a formulation (1:55-60 and 3:68-75);
- c) blow molding the parison into a desired shape (Figs. 5-7e).

Kato is silent to b) 40 cm parison and at least 40 second parison formation time, and to the new limitation directed to the volumer. However, these aspects would have been prima facie obvious over Kato's method because Kato teaches that extruding speed (4:8), extruded amount (4:8), and desired length (4:14) all represent result effective variables which can be optimized to provide a desired tube. See MPEP 2144.05 II and *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

As to the new limitation directed to the particular size and volume, it should be noted that limitations relating to the size of an article are generally not sufficient to patentably distinguish over the prior art. In this regard, it should also be noted that Kato teaches the ordinary artisan that various products can be made by modifying the respective portions of the mechanism, in particular the size of the inner mold and core mold (see "bigger" at 5:26). The inner mold affects the size of the article, and the core mold affects the volume. Also see MPEP 2144.04 IV(A) and *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955) (Claims directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" where held unpatentable over

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prior art lumber packages which could be lifted by hand because limitations relating to the size of the package were not sufficient to patentably distinguish over the prior art.); *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) (“mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled.” 531 F.2d at 1053, 189 USPQ at 148.). *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

As to Claim 4, cooling a blow molded article and removal are inherent in Kato’s process (4:40-49). The Examiner submits that forming the parison continuously at the same rate as the article is molded, cooled, and removed, would have been inherent or prima facie obvious over Kato’s method because it would have been prima facie obvious to perform the process as rapidly as possible. See also the discussion above regarding changes in size and MPEP 2144.04 IV(A).

As to Claim 5, Kato teaches a toy (6:25), among other intended uses. However, the Examiner submits that these limitations do not materially affect the claimed process because they pertain only to the desired shape, which does not materially affect the claimed method. The method of Kato could be used to make all articles recited in Claim 5.

4. **Claims 2 and 3** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato (USPN 3372429) in view of Fahey (USPN 5077331). Kato teaches the subject matter of Claim 1

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above under 35 USC 103(a). Kato is silent to processing aids and the other additives recited in Claims 2 and 3. However, they would have been prima facie obvious over Fahey for the following reasons:

As to Claim 2, Fahey teaches that processing aids are added to increase the melt strength during processing and molding operations and to reduce the melt viscosity and elasticity of the molding compounds (4:46-55). Fahey further teaches common processing aids (4:50) and that the amount of processing aid added is generally in the range of 2 to 10%. In order to “reduce the melt viscosity...of the molding composition” (4:48-50), Fahey teaches that the processing aids inherently had a higher viscosity in order to raise the viscosity of the molding composition when added to the molding composition. Fahey’s process aids are specifically directed to poly(vinyl chloride) (Abstract, line 3).

As to the new limitation drawn to the particular formation time and size, Kato clearly teaches that extruding speed and extruded amount both represent result-effective variables which can be modified (“determined”, 4:7-15). See MPEP 2144.05 II and *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

As to Claim 3, Fahey also teaches at least flame retardants (4:17)

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Fahey into that of Kato in order to a) avoid the tendency for the material to turn yellow due to thermo-mechanical stress induced by processing 2:63-3:9 and 2:25-40), b) maintain its high clarity (2:63-3:9 and 2:25-40), or c) produce an economic advantage in that less work need be expended at a given set of processing conditions (1:9-14).

5. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato (USPN 3372429) in view of Irwin ("Blow Molding" in Encyclopedia of Polymer Science and Engineering, 2nd edition, 1985, pages 447-478). Kato teaches the subject matter of Claim 1 above under 35 USC 103(a). **As to Claim 4**, cooling a blow molded article and removal are inherent in Kato's process (4:40-49). Irwin teaches processes in which the parison continuously forms at the same rate as the article is molded, cooled, and removed (Figs. 5, 8, or 9, and specifically Page 450, "*Continuous Extrusion*"). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Irwin into that of Kato a) in order to increase the number of articles molded per unit time, and b) because the continuous extrusion process is best for poly(vinyl chloride) resins (Page 453, below Fig. 8) in order to reduce the occurrence of hot spots which damage material.

Response to Arguments

6. Applicant's arguments filed 31 January 2006 have been fully considered but they are not persuasive. The arguments appear to be on the following grounds:

- a) Applicant has invented, unobviously, a method of making very large blow molded articles from PVC compounds. The volume range identified in Claim 1 ranges from about 0.1 to 19 gallons.
- b) Kato disclosed the use of polyethylene, not PVC. The mere recitation of PVC as a material that can be employed is speculative.
- c) Kato does not teach composition of a compound, size, and a parison test
- d) The Office employs hindsight to reconstruct the essence of Applicant's invention.

e) Fahey does not disclose or suggest that there is a correlation between relative viscosity of the PVC resin and the relative viscosity of the processing aid that achieves the parison test claimed.

“Even though it is conventional from Fahey to have processing aid content of from 2 – 10% by weight (4:50), there is nothing conventional about recognizing the correlation of relative viscosities of resin and processing aid identified in Claim 2 of the claimed method.”

f) Applicant also challenges the asserted combination in that there is no teaching or suggestion to do so.

7. These arguments are not persuasive for the following reasons:

a) While the Applicant’s remarks are noted, the Examiner submits that it would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to provide Kato’s “bottle, tumbler,...test tube, flask,” having a size of 378 milliliters (0.1 gallons) or greater.

Additionally, it should be noted that limitations relating to the size of an article are generally not sufficient to patentably distinguish over the prior art. In this regard, it should also be noted that Kato teaches the ordinary artisan that various products can be made by modifying the respective portions of the mechanism, in particular the size of the inner mold and core mold (see “bigger” at 5:26). The inner mold affects the size of the article, and the core mold affects the volume. Also see MPEP 2144.04 IV(A) and *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955) (Claims directed to a lumber package “of appreciable size and weight requiring handling by a lift truck” where held unpatentable over prior art lumber packages which could be lifted by hand because limitations relating to the size of the package were not sufficient to patentably distinguish over the prior art.); *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) (“mere scaling up of

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a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled.” 531 F.2d at 1053, 189 USPQ at 148.). *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

b) Kato’s reference is prior art for all that it teaches, including polyvinyl chloride (1:55-60)

c) Kato discloses polyvinyl chloride as the composition. This teaching would clearly also suggest the “conventional” processing aids used by one of ordinary skill for polyvinyl chloride.

One of ordinary skill includes such processing aids for the reasons set forth in the action, namely as a lubricant, to reduce melt viscosity and elasticity (Fahey, 4:57-55). It is argued that

Applicant claims a “parison test”. It is unclear how a particular testing process materially affects the claimed method, however, it is also submitted that Kato clearly teaches and suggest to the ordinary artisan that the extrusion rate and other characteristics be varied or “determined” (4:9), providing the ordinary artisan with result-effective teachings to modify this experimental variable.

d and f) In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the

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applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case, Kato clearly teaches the composition, and it is further submitted that teaching of PVC would have suggested to the ordinary artisan the conventional processing aids which are disclosed as providing benefit in Fahey's method.

e) The Applicant's remarks are acknowledged, however, the Examiner respectfully disagrees. Fahey's teaching that "Plasticizers...provide a lower melt viscosity to the mixture during blending" (4:33-35) appears to teach that which is sought in Claim 2.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Daniels whose telephone number is (571) 272-2450. The examiner can normally be reached on Monday - Friday, 7:30 am - 5:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJD 2/20/06



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